

REMARKS

The present application was filed on September 15, 1999 with claims 1-6. In the outstanding Office Action dated December 22, 2003, the Examiner has rejected claims 1-6 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,870,545 to Davis et al. (hereinafter "Davis").

In this response, Applicants traverse the §102(e) rejection for at least the reasons set forth below. Applicants respectfully request reconsideration of the present application in view of the following remarks.

Claims 1-6 stand rejected under 35 U.S.C. §102(e) as being anticipated by the Davis reference. With regard to independent claim 1, and claims 4-6 which are of similar scope, the Examiner contends that Davis discloses each of the elements set forth in the subject claims. Applicants respectfully disagree with this contention and submit that, not only does Davis fail to disclose the claimed invention, but the problem being solved by the claimed invention, namely, the evaluation of start conditions of activities within a process model, is absent from Davis, based on the teachings therein.

In accordance with the process model taught by Davis, a given process is represented by only two types of nodes, namely, "work nodes" and "rule nodes" (Davis; column 12, lines 20-23). Work nodes are defined in Davis as doing work, "such as performing a manual task or executing a computer program" (Davis; column 12, lines 21-23). Rule nodes, on the other hand, do not perform work on the process but rather are defined as doing routing "by determining which outward arc to fire" (Davis; column 12, lines 23-24). Thus, by Davis' own teaching, a rule node cannot reasonably be analogous to a "target activity representing a work item of said process," as required by the claimed invention.

The Examiner contends that the rule node taught by Davis is analogous to a target-activity recited in the claimed invention, stating that "[b]y definition, work items are simply the activities of the node" (present Office Action; page 3, paragraph 2). Applicants respectfully disagree with this contention and submit that work items relate to the process, as recited in claim 1, not to activities of the node, as the Examiner contends. Moreover, the rule nodes defined by Davis do not represent work items of the process. Davis states that "[a] work node is a placeholder for a process activity, which is a logical representation of a piece of work contributing towards the accomplishment of a process" (Davis; column 6, lines 62-64; emphasis added). Davis further states that "[r]ule nodes .

... are used to specify workflow processes 18 that are more complex than a simple sequence” (Davis; column 7, lines 9-11; emphasis added). Consequently, if any analogy can be made at all between the claimed invention and the system taught by Davis, the target-activity recited in claim 1 may be comparable to the work nodes taught by Davis, while the “rule nodes” disclosed in Davis may be comparable to “transition conditions,” which are Boolean expressions associated with the control connectors in the present invention (see, e.g., present specification; page 12, lines 30-32).

In contrast to the claimed invention, however, Davis explicitly states that a work node “has at most one inward arc” (Davis; column 6, lines 39-40; emphasis added), and thus cannot address a primary problem to which the claimed invention is directed, namely, the evaluation of start-conditions associated with multiple incoming connectors to a given target-activity. As such, Davis clearly fails to teach or suggest a mechanism for evaluating start conditions for a given target-activity capable of handling multiple incoming connectors, as required by the claimed invention. In contrast to Davis, claim 1 of the present invention provides a means for determining whether a target-activity “may be started, by evaluating the truth-value of a start-condition once truth-values of all incoming control connectors of said target-activity have been posted.” (see, e.g., present specification; page 18, lines 18-20; FIG. 2).

Applicants assert that Davis fails to teach or suggest the step of “evaluating the truth-value of a start-condition once truth-values of all incoming control-connectors of said target-activity have been posted,” as explicitly set forth in claim 1. As previously stated, since a “work node” disclosed in Davis, which may be most closely comparable to the “target-activity” recited in the claimed invention, is capable of receiving only one incoming arc (connector) (Davis; column 6, lines 39-41), the arrangement taught by Davis is not configurable for evaluating multiple incoming control connectors for the purpose of determining the truth values of the start-conditions, as required by the claimed invention. Consequently, Davis fails to disclose all of the features of the present invention set forth in the subject claims. Moreover, Applicants assert that the prior art of record fails to supplement the deficiencies of Davis so as to obtain the claimed invention, and thus the claimed invention is not rendered obvious in view of the prior art.

As stated in Applicants’ prior response, an advantage of the claimed invention is that by associating time intervals to control connectors, a target activity can proceed with its processing even though all of the incoming control connectors corresponding to the target activity have not been

evaluated (present specification; page 19, lines 15-23). In this manner, the portions of the target activity that can be started are allowed to continue, without having to wait for all incoming control connectors to be evaluated first. In the arrangement taught by Davis, “work nodes” are not configurable for evaluating multiple incoming connectors. By using the approach taught by Davis, if an incoming control connector never gets evaluated (fired), the process simply halts. Or, if an incoming control connector is evaluated late, the process may not be completed in time or may be excessively delayed. The claimed invention provides a solution to either of the above problems in the prior art.

The work nodes of the architecture taught by Davis are not capable of processing multiple incoming connectors, as required by the claimed invention, and thus Davis additionally provides no mechanism for performing a timed-evaluation-step, as set forth in claim 1. As part of the timed-evaluation-step, the claimed invention requires evaluating if at least one of the incoming control connectors of the target activity is associated with a time interval, and evaluating if the time interval has been met. The Examiner contends that Davis discloses such steps (present Office Action; page 4, paragraph 2). Applicants respectfully disagree with this contention. While Davis may disclose that “a rule node 42 determines which outward arcs to fire based on the status passed along the inward arcs, the time at which each inward arc is fired and process-relevant data associated with the process instance” (Davis; column 7, lines 9-12-15) and that “[a] rule node 42 can raise events when certain conditions are met” (Davis; column 7, lines 17-18), Davis fails to teach evaluating if one or more incoming control connectors of the target activity is associated with a time interval and/or whether said time interval has been met, as required by claim 1. In this regard, it is the target activity to which the claimed invention refers, not the rule nodes as suggested by the Examiner, and therefore Davis is clearly distinguishable from the subject claims.

For at least the reasons given above, Applicants submit that independent claims 1 and 4-6 are patentable over the prior art of record. Accordingly, favorable reconsideration and allowance of these claims are respectfully solicited.

With regard to claims 2 and 3, which depend from claim 1, Applicants assert that these claims are also patentable over the prior art of record by virtue of their dependency from claim 1, which is believed to be patentable for at least the reasons given above. Furthermore, one or more of these claims define additional patentable subject matter in their own right. For example, claim

2 further defines the timed-evaluation step as utilizing, as a starting point for the time interval, the point in time when a commencing activity is completed. Davis fails to teach or suggest at least this limitation of the claimed invention. Instead, the Examiner incorrectly analogizes a "start work node 150" (Davis; column 13, lines 13-15) with the use of the completion of a commencing activity as the starting point of the associated time interval. Davis states that the start work node is merely a work node that "has no inward arc and is started when the process 149 begins execution" (Davis; column 13, lines 15-17). Davis fails to disclose a timed-evaluation step, and moreover fails to disclose using as a starting point for the time interval the point in time when the commencing-activity is completed, as required by claim 2.

For at least the above reasons, claims 2 and 3 are believed to be patentable over the cited prior art, not merely by virtue of their dependency from claim 1, but also in their own right. Accordingly, favorable reconsideration and allowance of these claims are respectfully requested.

In view of the foregoing, Applicants believe that pending claims 1-6 are in condition for allowance, and respectfully request withdrawal of the §102 rejection.

Respectfully submitted,



Date: March 22, 2004

Wayne L. Ellenbogen
Attorney for Applicant(s)
Reg. No. 43,602
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-7662